

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-B

May 30, 2007

PAGE 1  
000 B000000 03/31/2007  
000 C000000 1258943  
000 D000000 N  
000 E000000 NF  
000 F000000 Y  
000 G000000 N  
000 H000000 N  
000 I000000 6.1  
000 J000000 A  
001 A000000 PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST  
001 B000000 811-21409  
001 C000000 6177427825  
002 A000000 60 STATE STREET  
002 B000000 BOSTON  
002 C000000 MA  
002 D010000 02109  
003 000000 N  
004 000000 N  
005 000000 N  
006 000000 N  
007 A000000 N  
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007 C010200 2  
007 C010300 3  
007 C010400 4  
007 C010500 5  
007 C010600 6  
007 C010700 7  
007 C010800 8  
007 C010900 9  
007 C011000 10  
008 A000001 PIONEER INVESTMENT MANAGEMENT, INC.  
008 B000001 A  
008 C000001 801-8255  
008 D010001 BOSTON  
008 D020001 MA  
008 D030001 02109  
010 A000001 PIONEER INVESTMENT MANAGEMENT, INC.  
010 B000001 801-8255  
010 C010001 BOSTON  
010 C020001 MA  
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010 A000002 PRINCETON ADMINISTRATORS, LLC  
010 C010002 PRINCETON  
010 C020002 NJ  
010 C030002 08543  
010 C040002 9095  
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.  
011 B000001 8-12345678  
011 C010001 BOSTON  
PAGE 2  
011 C020001 MA  
011 C030001 02109  
011 C040001 1820  
011 A000002 UBS WARBURG  
011 B000002 8-022651  
011 C010002 STAMFORD

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011 C020002 CT  
011 C030002 06901  
011 A000003 RBC CAPITAL MARKETS  
011 B000003 8-045411  
011 C010003 MINNEAPOLIS  
011 C020003 MN  
011 C030003 55402  
011 C040003 4422  
011 A000004 MERRILL LYNCH, PIERCE, FENNER & SMITH INC.  
011 B000004 8-7221  
011 C010004 NEW YORK  
011 C020004 NY  
011 C030004 10281  
011 C040004 1201  
011 A000005 JANNEY MONTGOMERY SCOTT LLC  
011 B000005 8-462  
011 C010005 PHILADELPHIA  
011 C020005 PA  
011 C030005 19103  
011 C040005 1675  
011 A000006 WACHOVIA CAPITAL MARKETS, LLC  
011 B000006 8-99999  
011 C010006 RICHMOND  
011 C020006 VA  
011 C030006 23219  
012 A000001 PIONEER INV. MGMT. SHAREHOLDER SERVICES, INC.  
012 B000001 85-00000  
012 C010001 BOSTON  
012 C020001 MA  
012 C030001 02109  
012 A000002 AMERICAN STOCK TRANSFER & TRUST COMPANY  
012 B000002 85-00000  
012 C010002 BROOKLYN  
012 C020002 NY  
012 C030002 11219  
012 A000003 DEUTSCHE BANK TRUST COMPANY AMERICAS (PREF.)  
012 B000003 85-00000  
012 C010003 NEW YORK CITY  
012 C020003 NY  
012 C030003 10005  
013 A000001 ERNST & YOUNG LLP  
013 B010001 BOSTON  
013 B020001 MA  
013 B030001 02116  
013 B040001 5072  
PAGE 3  
015 A000001 BROWN BROTHERS HARRIMAN & CO.  
015 B000001 C  
015 C010001 BOSTON  
015 C020001 MA  
015 C030001 02109  
015 E010001 X  
018 000000 Y  
019 A000000 Y  
019 B000000 82  
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020 C000001 0  
020 C000002 0  
020 C000003 0  
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020 C000007 0  
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021 000000 0  
022 A000001 BLACKROCK, INC.  
022 B000001 13-3806694  
022 C000001 1192249  
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022 A000002 LEHMAN BROTHERS, INC.  
022 B000002 13-2518466  
022 C000002 10168  
022 D000002 11376  
022 A000003 B.C. ZIEGLER AND COMPANY  
022 B000003 39-0727640  
022 C000003 19421  
022 D000003 1160  
022 A000004 WACHOVIA SECURITIES, LLC  
022 B000004 54-0796506  
022 C000004 6784  
022 D000004 13508  
022 A000005 UBS FINANCIAL SERVICES, INC.  
022 B000005 13-2638166  
022 C000005 10450  
022 D000005 10415  
022 A000006 HERBERT J. SIMS & CO., INC.  
022 B000006 13-5213180  
022 C000006 16259  
022 D000006 2428  
022 A000007 MERRILL LYNCH, PIERCE, FENNER & SMITH INC.  
022 B000007 13-5674085  
022 C000007 13000  
022 D000007 0  
022 A000008 CORBY CAPITAL MARKETS, INC.  
022 B000008 52-1037969  
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022 C000008 0  
022 D000008 5952  
022 A000009 CITIGROUP GLOBAL MARKETS, INC.  
022 B000009 11-2418191  
022 C000009 0  
022 D000009 5487  
022 A000010 J. GIORDANO SECURITIES GROUP  
022 C000010 3398  
022 D000010 0  
023 C000000 1277957  
023 D000000 71260  
024 000000 N  
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054 L000000 N  
054 M000000 Y  
054 N000000 N  
054 O000000 N  
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055 B000000 N  
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058 A000000 N  
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060 A000000 Y

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060 B000000 Y  
061 000000 0  
062 A000000 Y  
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062 N000000 0.0  
062 O000000 135.0  
062 P000000 0.0  
062 Q000000 0.0  
062 R000000 0.8  
063 A000000 0  
063 B000000 22.2  
064 A000000 Y  
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070 N010000 N  
070 N020000 N  
070 O010000 Y  
070 O020000 N  
070 P010000 Y

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070 P020000 N  
070 Q010000 N  
070 Q020000 N  
070 R010000 N  
070 R020000 N

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071 A000000 85708  
071 B000000 94250  
071 C000000 490966  
071 D000000 17  
072 A000000 12  
072 B000000 30485  
072 C000000 0  
072 D000000 0  
072 E000000 0  
072 F000000 3019  
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072 I000000 430  
072 J000000 23  
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072 L000000 17  
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072 N000000 24  
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072 R000000 58  
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072 V000000 0  
072 W000000 50  
072 X000000 4159  
072 Y000000 48  
072 Z000000 26374  
072AA000000 5510  
072BB000000 0  
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072DD020000 0  
072EE000000 0  
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073 A020000 0.0000  
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074 G000000 0  
074 H000000 0  
074 I000000 3153  
074 J000000 11628

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074 K000000 0  
074 L000000 9189  
074 M000000 1539  
074 N000000 513902

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| 074       | R040000            | 1664                       |
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| 074       | U010000            | 22741                      |
| 074       | U020000            | 0                          |
| 074       | V010000            | 15.91                      |
| 074       | V020000            | 0.00                       |
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| 074       | X000000            | 9917                       |
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| 075       | B000000            | 353260                     |
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| 077       | A000000            | Y                          |
| 077       | B000000            | Y                          |
| 078       | 000000             | N                          |
| 080       | A000000            | ICI MUTUAL INSURANCE CO.   |
| 080       | C000000            | 60000                      |
| 081       | A000000            | Y                          |
| 081       | B000000            | 82                         |
| 082       | A000000            | N                          |
| 082       | B000000            | 0                          |
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| 085       | B000000            | N                          |
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| 086       | C010000            | 0                          |
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| 086       | D010000            | 0                          |
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| 086       | E010000            | 0                          |
| 086       | E020000            | 0                          |
| 086       | F010000            | 0                          |
| 086       | F020000            | 0                          |
| 087       | A010000            | COMMON STOCK               |
|           | PAGE               | 9                          |
| 087       | A020000            | 723762100                  |
| 087       | A030000            | MAV                        |
| 087       | B010000            | PREFERRED STOCK - SERIES A |
| 087       | B020000            | 723762209                  |
| 087       | C010000            | PREFERRED STOCK - SERIES B |
| 087       | C020000            | 723762308                  |
| 088       | A000000            | N                          |
| 088       | B000000            | N                          |
| 088       | C000000            | N                          |
| 088       | D000000            | Y                          |
| SIGNATURE | MARY KELLERMANN    |                            |
| TITLE     | ACCOUNTING MANAGER |                            |